LAMPIRAN 1. Kuisioner Evaluasi Sensoris

KUISIONER

NAMA : (L/P)
UMUR :

Di hadapan anda tersajibeberapa sampel *cookies*, silahkan berikan penilaian Anda dengan rentang nilai 1 hingga 5 mengenai warna, tekstur dan rasa dari masing-masing sampel tersebut sesuai dengan kode yang ada;

a) WARNA,TEKSTUR DAN RASA

KARAKTER	1.1 KODE SAMPEL			
	4315	3456	5642	6231
WARNA				
TEKSTUR				
RASA				

Keterangan :

1 = Sangat dapat diterima

2 = Dapat diterima

3 =Cukup dapat diterima

4 = Tidak dapat diterima

5 = Sangat tidak dapat diterima

b) KESUKAAN

1.2 KODE SAMPEL			
4315	3456	5642	6231

Keterangan :

1 = Sangat suka

2= Suka

3 = Cukup suka

4 = Tidak suka

5 = Sangat tidak suka

LAMPIRAN 2. Anova Intensitas Warna dan Breaking Strength Cookies

ANOVA

		Sum of Squares	df	Mean Square	F	Sig.
WARNA	Between Groups	1170.706	3	390.235	764.549	.000
	Within Groups	2.042	4	.510		
	Total	1172.748	7			
BREAK_S	Between Groups	5915.406	3	1971.802	57.999	.001
	Within Groups	135.988	4	33.997		
	Total	6051.394	7			

BREAK_S

Duncan[a]

KONST	N	Subset for alpha = .05			
		1	2	3	4
konsentrasi 0%	3	36,5500			
konsentrasi 10%	3		67,9900		
konsentrasi 20%	3			103,0000	
konsentrasi 30%	3				112,0000
Sig.		1,000	1,000	1,000	1,000

Means for groups in homogeneous subsets are displayed.

a. Uses Harmonic Mean Sample Size = 3,000.

WARNA

Duncan[a]

KONST	N	Subset for alpha = .05			
		1	2	3	4
konsentrasi 30%	3	114,8200			
konsentrasi 20%	3		119,8000		
konsentrasi 10%	3			135,8700	
konsentrasi 0%	3				144,8900
Sig.		1,000	1,000	1,000	1,000

Means for groups in homogeneous subsets are displayed.

a. Uses Harmonic Mean Sample Size = 3,000.

LAMPIRAN 3. Anova Kadar Air, Kadar Abu, Kadar Protein, Kadar Serat Ka Kadar Lemak dan Kadar Karbohidrat Cookies

ANOVA

		Sum of Squares	df	Mean Square	F	Sig.
K.AIR	Between Groups	9.940	3	3.313	582.140	.000
	Within Groups	.046	8	.006		
	Total	9.986	11			
K.ABU	Between Groups	4.362	3	1.454	83.000	.000
	Within Groups	.140	8	.018		
	Total	4.502	11			
K.PROT	Between Groups	455709125 5244.980	3	15190304184 14.994	65.948	.000
	Within Groups	184269138 699.942	8	23033642337. 493		
	Total	474136039 3944.920	11			
K.SK	Between Groups	13.329	3	4.443	478.605	.000
	Within Groups	.074	8	.009		
	Total	13.403	11			
K.LEMAK	Between Groups	261647220 22.924	3	8721574007.6 41	132.169	.000
	Within Groups	527906192 .827	8	65988274.103		
	Total	266926282 15.751	11			
K.KH	Between Groups	80.796	3	26.932	2.131	.174
	Within Groups	101.085	8	12.636		
	Total	181.881	11			

K.AIR

Duncan

TEPUNG	N	Subset for alpha = .05			
		1	2	3	4
kontrol	3	4.3733			
10%	3		5.5100		
20%	3			6.3100	
30%	3				6.7733
Sig.		1.000	1.000	1.000	1.000

Means for groups in homogeneous subsets are displayed.
a Uses Harmonic Mean Sample Size = 3.000.

K.ABU

Duncan

TEPUNG	N	Subset for alpha = .05			
		1	2	3	4
kontrol	3	1.1967			
10%	3		1.8200		
20%	3			2.2500	
30%	3				2.8467
Sig.		1.000	1.000	1.000	1.000

Means for groups in homogeneous subsets are displayed.
a Uses Harmonic Mean Sample Size = 3.000.

K.PROT

Duncan

TEPUNG	N	Subset for alpha = .05			
		1	2	3	4
kontrol	3	27233.7475			
10%	3		449933.2954		
20%	3			905999.4760	
30%	3				1690000.9948
Sig.		1.000	1.000	1.000	1.000

Means for groups in homogeneous subsets are displayed.
a Uses Harmonic Mean Sample Size = 3.000.

K.SK

Duncan

TEPUNG	N	Subset for alpha = .05			
		1	2	3	4
kontrol	3	6.2467			
10%	3		7.8067		
20%	3			8.3533	
30%	3				9.1233
Sig.		1.000	1.000	1.000	1.000

Means for groups in homogeneous subsets are displayed.
a Uses Harmonic Mean Sample Size = 3.000.

K.LEMAK

Duncan

TEPUNG	N	Subset for alpha = .05			
		1	2	3	4
kontrol	3	14376.8949			
10%	3		81210.4356		
20%	3			96849.0434	
30%	3				144841.8121
Sig.		1.000	1.000	1.000	1.000

Means for groups in homogeneous subsets are displayed.
a Uses Harmonic Mean Sample Size = 3.000.

K.KH

Duncan

TEPUNG	N	Subset for alpha = .05
		1
30%	3	70.0467
20%	3	72.7300
10%	3	75.6767
kontrol	3	76.6600
Sig.		.065

Means for groups in homogeneous subsets are displayed.
a Uses Harmonic Mean Sample Size = 3.000.

LAMPIRAN 4. Korelasi Antara Parameter fisik dan Kimia

Correlations

		TEPUNG	K.AIR	K.ABU	K.PROT	K.SK	K.LEMAK	K.KH	I.WARNA	B.STRENG
TEPUNG	Pearson Correlation	1	.981**	.982**	.968**	.971**	.965**	-.654*	-.982**	.965**
	Sig. (2-tailed)	.	.000	.000	.000	.000	.000	.021	.000	.000
	N	12	12	12	12	12	12	12	12	12
K.AIR	Pearson Correlation	.981**	1	.960**	.923**	.989**	.961**	-.605*	-.979**	.984**
	Sig. (2-tailed)	.000	.	.000	.000	.000	.000	.037	.000	.000
	N	12	12	12	12	12	12	12	12	12
K.ABU	Pearson Correlation	.982**	.960**	1	.949**	.965**	.968**	-.636*	.955**	.939**
	Sig. (2-tailed)	.000	.000	.	.000	.000	.000	.026	.000	.000
	N	12	12	12	12	12	12	12	12	12
K.PROT	Pearson Correlation	.968**	.923**	.949**	1	.929**	.947**	-.678*	-.930**	.896**
	Sig. (2-tailed)	.000	.000	.000	.	.000	.000	.015	.000	.000
	N	12	12	12	12	12	12	12	12	12
K.SK	Pearson Correlation	.971**	.989**	.965**	.929**	1	.982**	-.594*	-.947**	.954**
	Sig. (2-tailed)	.000	.000	.000	.000	.	.000	.042	.000	.000
	N	12	12	12	12	12	12	12	12	12
K.LEMAK	Pearson Correlation	.965**	.961**	.968**	.947**	.982**	1	-.616*	-.923**	.919**
	Sig. (2-tailed)	.000	.000	.000	.000	.000	.	.033	.000	.000
	N	12	12	12	12	12	12	12	12	12
K.KH	Pearson Correlation	-.654*	-.605*	-.636*	-.678*	-.594*	-.616*	1	.644*	-.619*
	Sig. (2-tailed)	.021	.037	.026	.015	.042	.033	.	.024	.032
	N	12	12	12	12	12	12	12	12	12
I.WARNA	Pearson Correlation	-.982**	-.979**	-.955**	-.930**	-.947**	-.923**	.644*	1	-.992**
	Sig. (2-tailed)	.000	.000	.000	.000	.000	.000	.024	.	.000
	N	12	12	12	12	12	12	12	12	12
B.STRENG	Pearson Correlation	.965**	.984**	.939**	.896**	.954**	.919**	-.619*	-.992**	1
	Sig. (2-tailed)	.000	.000	.000	.000	.000	.000	.032	.000	.
	N	12	12	12	12	12	12	12	12	12

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

LAMPIRAN 5. Tabulasi Silang Antara Warna dan Konsentrasi

TEPUNG * WARNA Crosstabulation

			WARNA					
			sangat dapat diterima	dapat diterima	cukup dapat diterima	tidak dapat diterima	sangat tidak dapat diterima	Total
TEPUNG	kontrol	Count	20	60	20	0	0	100
		% within TEPUNG	20.0%	60.0%	20.0%	.0%	.0%	100.0%
		% within WARNA	50.0%	44.1%	10.9%	.0%	.0%	25.0%
		% of Total	5.0%	15.0%	5.0%	.0%	.0%	25.0%
	10%	Count	12	44	44	0	0	100
		% within TEPUNG	12.0%	44.0%	44.0%	.0%	.0%	100.0%
		% within WARNA	30.0%	32.4%	23.9%	.0%	.0%	25.0%
		% of Total	3.0%	11.0%	11.0%	.0%	.0%	25.0%
	20%	Count	8	20	56	16	0	100
		% within TEPUNG	8.0%	20.0%	56.0%	16.0%	.0%	100.0%
		% within WARNA	20.0%	14.7%	30.4%	44.4%	.0%	25.0%
		% of Total	2.0%	5.0%	14.0%	4.0%	.0%	25.0%
	30%	Count	0	12	64	20	4	100
		% within TEPUNG	.0%	12.0%	64.0%	20.0%	4.0%	100.0%
		% within WARNA	.0%	8.8%	34.8%	55.6%	100.0%	25.0%
		% of Total	.0%	3.0%	16.0%	5.0%	1.0%	25.0%
Total		Count	40	136	184	36	4	400
		% within TEPUNG	10.0%	34.0%	46.0%	9.0%	1.0%	100.0%
		% within WARNA	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
		% of Total	10.0%	34.0%	46.0%	9.0%	1.0%	100.0%

LAMPIRAN 6. Tabulasi Silang Antara Kesukaan dan Konsentrasi

TEPUNG * KESUKAAN Crosstabulation

			KESUKAAN				Total
			sangat suka	suka	cukup suka	tyidak suka	
TEPUNG	kontrol	Count	36	40	24	0	100
		% within TEPUNG	36.0%	40.0%	24.0%	.0%	100.0%
		% within KESUKAAN	39.1%	23.3%	20.0%	.0%	25.0%
		% of Total	9.0%	10.0%	6.0%	.0%	25.0%
	10%	Count	24	40	36	0	100
		% within TEPUNG	24.0%	40.0%	36.0%	.0%	100.0%
		% within KESUKAAN	26.1%	23.3%	30.0%	.0%	25.0%
		% of Total	6.0%	10.0%	9.0%	.0%	25.0%
	20%	Count	16	48	28	8	100
		% within TEPUNG	16.0%	48.0%	28.0%	8.0%	100.0%
		% within KESUKAAN	17.4%	27.9%	23.3%	50.0%	25.0%
		% of Total	4.0%	12.0%	7.0%	2.0%	25.0%
	30%	Count	16	44	32	8	100
		% within TEPUNG	16.0%	44.0%	32.0%	8.0%	100.0%
		% within KESUKAAN	17.4%	25.6%	26.7%	50.0%	25.0%
		% of Total	4.0%	11.0%	8.0%	2.0%	25.0%
Total		Count	92	172	120	16	400
		% within TEPUNG	23.0%	43.0%	30.0%	4.0%	100.0%
		% within KESUKAAN	100.0%	100.0%	100.0%	100.0%	100.0%
		% of Total	23.0%	43.0%	30.0%	4.0%	100.0%

LAMPIRAN 7. Tabulasi Silang Antara Tekstur dan Konsentrasi

TEPUNG * TEKSTUR Crosstabulation

			TEKSTUR					
			sangat dapat diterima	dapat diterima	cukup dapat diterima	tidak dapat diterima	sangat tidak dapat diterima	Total
TEPUNG	kontrol	Count	16	48	36	0	0	100
		% within TEPUNG	16.0%	48.0%	36.0%	.0%	.0%	100.0%
		% within TEKSTUR	80.0%	33.3%	17.6%	.0%	.0%	25.0%
		% of Total	4.0%	12.0%	9.0%	.0%	.0%	25.0%
	10%	Count	4	40	56	0	0	100
		% within TEPUNG	4.0%	40.0%	56.0%	.0%	.0%	100.0%
		% within TEKSTUR	20.0%	27.8%	27.5%	.0%	.0%	25.0%
		% of Total	1.0%	10.0%	14.0%	0%	.0%	25.0%
	20%	Count	0	36	48	12	4	100
		% within TEPUNG	.0%	36.0%	48.0%	12.0%	4.0%	100.0%
		% within TEKSTUR	.0%	25.0%	23.5%	50.0%	50.0%	25.0%
		% of Total	.0%	9.0%	12.0%	3.0%	1.0%	25.0%
	30%	Count	0	20	64	12	4	100
		% within TEPUNG	.0%	20.0%	64.0%	12.0%	4.0%	100.0%
		% within TEKSTUR	0%	13.9%	31.4%	50.0%	50.0%	25.0%
		% of Total	.0%	5.0%	16.0%	3.0%	1.0%	25.0%
Total		Count	20	144	204	24	8	400
		% within TEPUNG	5.0%	36.0%	51.0%	6.0%	2.0%	100.0%
		% within TEKSTUR	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
		% of Total	5.0%	36.0%	51.0%	6.0%	2.0%	100.0%

LAMPIRAN 8. Tabulasi Silang Antara Rasa dan Konsentrasi

TEPUNG * RASA Crosstabulation

			RASA				
			sangat dapat diterima	dapat diterima	cukup dapat diterima	tidak dapat diterima	Total
TEPUNG	kontrol	Count	20	48	32	0	100
		% within TEPUNG	20.0%	48.0%	32.0%	.0%	100.0%
		% within RASA	35.7%	36.4%	18.2%	.0%	25.0%
		% of Total	5.0%	12.0%	8.0%	.0%	25.0%
	10%	Count	12	24	52	12	100
		% within TEPUNG	12.0%	24.0%	52.0%	12.0%	100.0%
		% within RASA	21.4%	18.2%	29.5%	33.3%	25.0%
		% of Total	3.0%	6.0%	13.0%	3.0%	25.0%
	20%	Count	12	24	48	16	100
		% within TEPUNG	12.0%	24.0%	48.0%	16.0%	100.0%
		% within RASA	21.4%	18.2%	27.3%	44.4%	25.0%
		% of Total	3.0%	6.0%	12.0%	4.0%	25.0%
	30%	Count	12	36	44	8	100
		% within TEPUNG	12.0%	36.0%	44.0%	8.0%	100.0%
		% within RASA	21.4%	27.3%	25.0%	22.2%	25.0%
		% of Total	3.0%	9.0%	11.0%	2.0%	25.0%
Total		Count	56	132	176	36	400
		% within TEPUNG	14.0%	33.0%	44.0%	9.0%	100.0%
		% within RASA	100.0%	100.0%	100.0%	100.0%	100.0%
		% of Total	14.0%	33.0%	44.0%	9.0%	100.0%

LAMPIRAN 9. Persentase Angka Kecukupan Gizi pada Berbagai Tingkat Substitusi Tepung Bekatul

		ENERGI				PROTEIN				SERAT KASAR			
		Kontrol (%)	10% tb (%)	20% tb (%)	30% tb (%)	Kontrol (%)	10% tb (%)	20% tb (%)	30% tb (%)	Kontrol (%)	10% tb (%)	20% tb (%)	30% tb (%)
Pria	16 - 19	16,46	16,16	16,299	16,12	16,506	19,793	19,793	20,483	11,786	147,29	157,61	173,46
	20 - 59	15,53	15,53	15,376	15,22	19,537	23,068	23,429	24,245	11,358	141,94	151,88	167,15
	60	19,597	19,6	19,403	19,209	19,537	23,068	23,429	24,245	11,358	141,94	151,88	167,15
Wanita	16 - 19	21,104	21,108	20,89	20,686	20,812	24,572	24,957	25,826	13,882	173,48	185,63	204,23
	20 - 59	19,141	19,144	18,952	18,762	23,349	27,569	28	28,976	13,291	166,10	177,73	195,60
	60	24,066	24,07	23,828	23,589	23,349	27,569	28	28,976	13,291	166,10	177,73	195,60

Keterangan :
Perhitungan % angka kecukupan gizi untuk wanita dalam kondisi tidak hamil dan tidak menyusui

LAMPIRAN 10. Syarat Mutu *Cookies*

KOMPOSISI	JUMLAH
Air	Maks 5%
Protein	Min 9%
Lemak	Min 9,5%
Karbohidrat	Min 70%
Abu	Maks 1,5%
Logam Berbahaya	Negatif
Serat kasar	Maks 0,5%
Kalori (kal/100gr)	Min 400
Jenis Tepung	Terigu

Sumber : Syarat Mutu *Cookies* SNI 01-2973-1992 UDC. 664. 681

LAMPIRAN 11. Perhitungan Intensitas Warna *Cookies*

KONTROL, Diketahui :

Ulangan 1: L= 72,65; a= -8,25; b= +125,27

Ulangan 2: L= 72,54; a= -6,35; b= +125,09

E ulangan 1 $= \sqrt{(72,65)^2 + (8,25)^2 + (125,27)^2}$

$= 145,0471$

E ulangan 2 $= \sqrt{(72,54)^2 + (6,35)^2 + (125,09)^2}$

$= 144,7407$

E rata-rata $= \frac{145,0471 + 144,7407}{2}$

$= 144,8908$

10% tb, Diketahui :

Ulangan 1: L= 67,75; a= -3,79; b= +116,82

Ulangan 2: L= 68,50; a= -5,58; b= +118,11

E ulangan 1 $= \sqrt{(67,75)^2 + (3,79)^2 + (116,82)^2}$

$= 135,0975$

E ulangan 2 $= \sqrt{(68,50)^2 + (5,58)^2 + (118,11)^2}$

$= 136,6505$

E rata-rata $= \frac{135,0975+136,6505}{2}$

$= 135,871$

20% tb, Diketahui :

Ulangan 1: L= 60,88; a= -3,67; b= +103,59

Ulangan 2: L= 59,90; a= -0,97; b= +103,29

E ulangan 1 $= \sqrt{(60,88)^2 + (3,67)^2 + (103,59)^2}$

$= 120,2112$

E ulangan 2 $= \sqrt{(59,90)^2 + (0,97)^2 + (103,29)^2}$

$= 119,4059$

E rata-rata $= \frac{120,2112+119,4059}{2}$

$= 119,8005346$

30% tb, Diketahui :

Ulangan 1: L= 57,84
a= -1,68
b= +99,73

Ulangan 2: L= 57,36
a= -1,28
b= +98,90

E ulangan 1 $= \sqrt{(57,84)^2 + (1,68)^2 + (99,73)^2}$

$= 115,3012$

E ulangan 2 $= \sqrt{(57,36)^2 + (1,28)^2 + (98,90)^2}$

$= 114,3373$

E rata-rata $= \frac{115,3012+114,3373}{2}$

$= 114,8196734$

LAMPIRAN 12. Perhitungan *Breaking Strength*

Kontrol, Diketahui :

Breaking strength ulangan 1 = 36,55 N

Breaking strength ulangan 2 = 46,37 N

Breaking strength rata-rata $= \frac{36,55+46,37}{2}$

$= 41,46$ N

10% tb, Diketahui :

Breaking strength ulangan 1 = 67,99 N

Breaking strength ulangan 2 = 71,53 N

Breaking strength rata-rata $= \frac{67,99+71,53}{2}$

$= 69,76$ N

20% tb, Diketahui :

Breaking strength ulangan 1 = 103,0 N

Breaking strength ulangan 2 = 90,3 N

Breaking strength rata-rata $= \frac{103,0+90,30}{2}$

$= 96,695$ N

30% tb, Diketahui :

Breaking strength ulangan 1 = 112 N

Breaking strength ulangan 2 = 114 N

Breaking strength rata-rata $= \frac{112+114}{2}$

$= 113$ N

LAMPIRAN 13. Perhitungan Energi *Cookies*

Diketahui kandungan energi pada :

1gr protein	= 4,1 kalori
1 gr karbohidrat	= 4,1 kalori
1 gr lemak	= 9,3 kalori

(Fance *et al.*,1982).

Energi = (protein *cookies* x 4,1 kalori) + (karbohidrat *cookies* x 4,1kalori) + (lemak *cookies* x 9,3 kalori)

Kontrol

Energi = (9,5733 x 4,1 kalori) + (68,4100 x 4,1kalori) + (10,2000 x 9,3 kalori)
= 414,59153 kalori

10% tb

Energi = (11,3033 x 4,1 kalori) + (60,5667 x 4,1kalori) + (12,9933 x 9,3 kalori)
= 415,50469 kalori

20% tb

Energi = (11,4800 x 4,1 kalori) + (13,7100 x 4,1kalori) + (8,3533 x 9,3 kalori)
= 411,97207 kalori

30% tb

Energi = (11,8800 x 4,1 kalori) + (14,3333 x 4,1kalori) + (9,1933 x 9,3 kalori)
= 407,6824 kalori